

## ABSTRACT OF THE DISCLOSURE

Protein S is a significant neuroprotectant when administered after focal ischemic stroke and prevents hypoxic/re-oxygenation injury. Purified human plasma-derived or recombinant protein S improves motor neurological function after stroke, and reduced  
5 brain infarction and edema. Protein S also enhances post-ischemic reperfusion and reduced brain fibrin and neutrophil deposition. Cortical neurons are protected from hypoxia/re-oxygenation-induced apoptosis. Thus, protein S and variants thereof are prototypes of a class of agents for preventing injury of the nervous system. In particular, a disease or other pathological condition (e.g., stroke) may be treated with such agents  
10 having one or more protein S activities (e.g., anti-thrombotic and anti-inflammatory activities, direct cellular neuronal protective effects) although the latter activities are not be required.

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(57) Abstract: Protein S is a significant neuroprotectant when administered after focal ischemic stroke and prevents hypoxic/re-oxygenation injury. Purified human plasma-derived or recombinant protein S improves motor neurological function after stroke, and reduced brain infarction and edema. Protein S also enhances post-ischemic reperfusion and reduced brain fibrin and neutrophil deposition. Cortical neurons are protected from hypoxia/re-oxygenation-induced apoptosis. Thus, protein S and variants thereof are prototypes of a class of agents for preventing injury of the nervous system. In particular, a disease or other pathological condition (e.g., stroke) may be treated with such agents having one or more protein S activities (e.g., anti-thrombotic and anti-inflammatory activities, direct cellular neuronal protective effects) although the latter activities are not be required.

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